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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/076,270 | 02/19/2002 | Robert Kopetzky | 076326-0228 | 1060 |

22428 7590 11/25/2003

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| EXAMINER |
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HAUGLAND, SCOTT J

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| ART UNIT | PAPER NUMBER |
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3654

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,270

Applicant(s)

KOPETZKY ET AL.

Examiner

Scott Haugland

Art Unit

3654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzkus, et al in view of Wier.

Mitzkus, et al discloses a safety belt tensioner drive unit comprising a drive shaft coupled to a belt winding reel and capable of being triggered, a drive chamber formed by two connected plates 51, 52 which extend parallel to one another, drive bands 21 having ends fastened to the drive shaft and wound on the drive shaft, and a gas generator responsive to an acceleration sensor. Exposure of the chamber and band to pressurized gas from the gas generator causes the drive band to unwind and drive the drive shaft.

Mitzkus, et al does not disclose a coating material on the facing sides of the plates.

Wier teaches providing a coating (wax or other material – see column 6, lines 1-6) on one of engaging relatively moving surfaces that define an enclosed chamber for containing pressurized gas which drives a safety belt tensioner to reduce gas loss from the chamber. The coating of Wier is seen to be a film.

It would have been obvious to one having ordinary skill in the art to provide Mitzkus, et al with a film of coating material such as wax between the plates and band as taught by Wier to enhance gas retention in the drive chamber. It would have been obvious to include the coating material on the plates forming the chamber to ensure adequate material to maintain the desired seal throughout the range of motion of the band. With regard to claim 14, it would have been obvious to provide a coating of varying thickness as taught by Wier to accommodate variations in spacing and thickness of the plates. With regard to claim 16 and 17, the materials taught by Wier are seen to be soft and have adhesive properties. With regard to claims 18 and 19, the band would inherently penetrate and remove some of the coating material if the soft coating material were placed to bridge the gap between the band and plates as taught by Wier.

Claims 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Mitzkus, et al in view of Wier as applied to claim 11 above, and further in view of Stephens, et al.

Mitzkus, et al does not disclose a plurality of layers of coating material on the plates forming the drive chamber.

Stephens, et al teaches providing a plurality of layers of coating material on a machine element to form a seal. Note column 4, lines 66-69.

It would have been obvious to one having ordinary skill in the art to provide a plurality of layers of coating material on the plates of Mitzkus, et al as taught by Stephens, et al to form a seal with the band. With regard to claim 13, it would have been obvious to provide an additional layer of a different material such as a lubricant on the plates to reduce friction between the plates and band as is old and well known.

Response to Arguments

Applicant's arguments filed 9/8/03 have been fully considered but they are not persuasive.

Applicants argue that Wier does not teach providing a coating material on the facing sides of the plates 51, 52 of Mitzkus et al since Wier does not address a seatbelt retractor for winding a seatbelt (Wier discloses a linearly

actuated cable for tensioning a seatbelt) and Wier has no structure corresponding to the drive band 21 of Mitzkus et al. However, Wier teaches how to provide a seal between a flexible element (cable) and a wall of a pressure chamber.

The device of Wier, like that of Mitzkus et al, is a seatbelt tensioner operated by pressurized gas. Like the Mitzkus et al device, the pressurized gas is generated by ignition of a pyrotechnic charge. The teachings of Wier clearly relate to the same environment as that of the Mitzkus et al device.

Mitzkus et al discloses a seal between the bands 21 and walls 29 (col. 6, lines 52-60). Wier would have suggested to an ordinary artisan that it was desirable to provide a wax or other material between the walls 29 and bands 21 of Mitzkus et al to provide an improved seal that accommodates the flexibility of the bands and any irregularities in the bands and walls.

Placing the wax on the plates would have been obvious since it would have been clear that the seal would have been improved by application of wax to either or both of the surfaces to be sealed. Note that wax would inherently be present on both the cable and chamber wall of Wier. Additionally, it would have been clear that the surfaces of the plates were desirable locations for the wax since the cable of Wier slides against a relatively fixed area of the chamber wall. The area of contact between the cable and chamber wall moves progressively along the cable. The provision

Art Unit: 3654

of wax along a length of the cable maintains a seal as the cable slides against the chamber wall and out of the chamber. If wax were applied only to the chamber wall, a limited supply would be available and would be depleted by being distributed along the passing cable.

Similarly, in Mitzkus et al, the area of contact moves along the surfaces of the plates and the bands expand, so it would have been clearly desirable to apply the wax to the plates to maintain an adequate supply to provide a sufficient seal throughout the range of motion of each expanding band.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

Art Unit: 3654

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Haugland whose telephone number is (703) 305-6498. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (703) 308-2688. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

sjh
11/20/03


KATHY MATECKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600